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DOCKET NO.: 214907US0

"RESPONSE UNDER 37 CFR 1.116-
EXPEDITED PROCEDURE EXAMINING
GROUP 1624"

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:

Hisao IKEDA et al

: GROUP ART UNIT: 1624

SERIAL NO.: 09/973,766

: EXAMINER: V. BALASUBRAMANIAN

FILED: October 11, 2001

FOR: METHOD FOR REDUCING AN ORGANIC SOLVENT REMAINING
IN BETA-FORM TRIS- (2,3,-EPOXYPROPYL)-ISOCYANURATE
CRYSTALS

RESPONSE UNDER 37 C.F.R. §1.116

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

Responsive to the final Official Action mailed December 30, 2002, Applicants respectfully request reconsideration in view of the following remarks.

REQUEST FOR RECONSIDERATION

Claims 1, 2, 4-9 and 11-35 are active in the case.

The rejection of Claims 1, 2, 4-9 and 11-35 under 35 U.S.C. §103(a) as being unpatentable over Ikeda et al in view of Tsukamoto et al is traversed.

The Examiner argues that Ikeda et al teaches the use of organic solvent in the ninth aspect of the process in column 4, lines 46-53 and in column 8, lines 54-67 in which is mentioned specifically acetonitrile and dimethylformamide. However, it is clear that in Ikeda et al tris-(2,3,-epoxypropyl)-isocyanurate is crystallized and precipitated in epichlorohydrin as a reaction substrate and a solvent. In contrast, in the present invention epichlorohydrin is removed

from the reaction solution in (B), and the remaining tris-(2,3-epoxypropyl)-isocyanurate is dissolved in a solvent selected from a group consisting of acetonitrile, toluene, dioxane and dimethylformamide, and tris-(2,3-epoxypropyl)-isocyanurate is re-crystallized from the above-discussed solvent. β -form tris-(2,3-epoxypropyl)-isocyanurate crystals containing from 2 to 15 wt% of α -form tris-(2,3-epoxypropyl)-isocyanurate in the interior of the crystals can be obtained, as shown in the present specification and claims, with a solvent other than the epichlorohydrin disclosed in Ikeda et al with the crystals containing α -form and β -form in the above-discussed proportion in step (D) of the present claims with the remaining organic solvent and epichlorohydrin reduced to a level of at most 1000 ppm for remaining organic solvent and a level of at most 100 ppm for epichlorohydrin (see page 26, line 12 to page 27, line 24 of the specification). Neither Ikeda et al nor Tsukamoto et al teach or suggest that crystals of tris-(2,3-epoxypropyl)-isocyanurate having α -form and β -form in the above specific proportion can be obtained by using a solvent selected from the group consisting of acetonitrile, toluene, dioxane and dimethylformamide as a re-crystallization solvent. Tris-(2,3-epoxypropyl)-isocyanurate crystallized and precipitated from the solvent selected from the group consisting of acetonitrile, toluene, dioxane and dimethylformamide has a low content of residual hydrolyzable chlorine derived from epichlorohydrin and a low content of residual organic solvent, as compared with tris-(2,3-epoxypropyl)-isocyanurate crystallized and precipitated from epichlorohydrin, as disclosed in Ikeda et al. Therefore, it is clear that Ikeda et al do not disclose step (B) of the present claims “removing epichlorohydrin from said reaction solution and dissolving tris-(2,3-epoxypropyl)-isocyanurate in an organic solvent, wherein said solvent is acetonitrile, toluene, dioxane, or dimethylformamide”.

Secondly, the Examiner states that, except for Example 2, all other examples in the specification show more than 100 ppm of hydrolyzable chlorine content remaining. However,

the Examiner's statement is based on a misinterpretation of the results of the examples. At the end of all the examples, the amounts of remaining solvent and epichlorohydrin (hydrolyzable chlorine remaining) are set forth as pm and ppm, respectively. Therefore, it is clear that in Example 1 remaining epichlorohydrin is 20 ppm, Example 2 - 10 ppm, Example 3 - 30 ppm, Example 4 - 20 ppm, Example 5 - 20 ppm, and Example 6 - 40 ppm, all far below the upper limit on the present claims of remaining hydrolyzable chlorine content of at most 100 ppm. Therefore, the examples validate the process of the present claims.

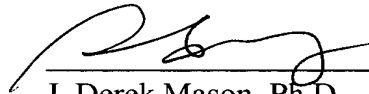
Further, the Examiner's argument that the examples of the specification fail to support the limitation of "remaining hydrolyzable chlorine content of at most 100 ppm", because of the variation in hydrolyzable chlorine content with the use of the same solvent in the examples, is misplaced, because, even with the slight variation in results in Examples 1-6 of the specification, all of the examples show "a remaining hydrolyzable chlorine content of at most 100 ppm". Therefore, the examples in the specification clearly support the above limitation in the present claims.

Finally, in response to the Examiner's statement that Applicants urge that the secondary reference is not relevant, it is stated that Applicants never made such a statement in the previous response, but asserted that Tsukamoto et al only discloses an evaporation technique for removing epichlorohydrin from epoxy components. In view of the limitations in the present claims argued above, it is clear that Tsukamoto et al does not remedy the deficiencies of Ikeda et al and the claims distinguish over the combination of references.

It is submitted that Claims 1, 2, 4-9 and 11-35 are allowable and such action is respectfully requested.

Respectfully submitted,

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ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

RE: Application Serial No.: 09/973,766
Applicants: Hisao IKEDA et al
Filing Date: October 11, 2001
For: METHOD FOR REDUCING AN ORGANIC
SOLVENT REMAINING IN BETA-FORM TRIS-(2,3,-
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Group Art Unit: 1624
Examiner: V. BALASUBRAMANIAN

SIR:

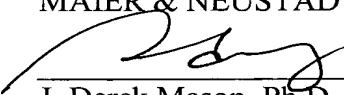
Attached hereto for filing are the following papers:

RESPONSE UNDER 37 C.F.R. §1.116

Our check in the amount of \$**0.00** is attached covering any required fees. In the event any variance exists between the amount enclosed and the Patent Office charges for filing the above-noted documents, including any fees required under 37 C.F.R. 1.136 for any necessary Extension of Time to make the filing of the attached documents timely, please charge or credit the difference to our Deposit Account No. 15-0030. Further, if these papers are not considered timely filed, then a petition is hereby made under 37 C.F.R. 1.136 for the necessary extension of time. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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